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1 An IR local positioning system for smart items and devices
Aitenbichler, E.; Muhlhauser, M.;

 Distributed Computing Systems Workshops, 2003. Proceedings. 23rd International Conference on , 19-22 May 2003
 Pages:334 - 339

[\[Abstract\]](#) [\[PDF Full-Text \(310 KB\)\]](#) **IEEE CNF**
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Result page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [next](#)**1** [Fast detection of communication patterns in distributed executions](#)

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative**

Full text available: pdf(4.21 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams provide a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview. To improve the experience, such tools display repeated occurrences of non-trivial communication patterns.

2 [Video Manga: generating semantically meaningful video summaries](#)

Shingo Uchihashi, Jonathan Foote, Andreas Girgensohn, John Boreczky

October 1999 **Proceedings of the seventh ACM international conference on Multimedia (Part 1)**

Full text available: pdf(3.41 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper presents methods for automatically creating pictorial video summaries that resemble comic books. The most important segments is computed from their length and novelty. Image and audio analysis is used to automatically detect a better understanding of the execution of the application. Based on this importance measure, we choose relevant keyframes. Selected keyframes are sized by importance, and used to create a pictorial summary. We present a quantitative measure of how well a summary represents the original video.

Keywords: keyframe selection and layout, video summarization and analysis**3** [Computing curricula 2001](#)September 2001 **Journal on Educational Resources in Computing (JERIC)**

Full text available: pdf(613.63 KB) html(2.78 KB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**4** [A synchronization model for recorded presentations and its relevance for information retrieval](#)

W. Hürst, R. Müller

October 1999 **Proceedings of the seventh ACM international conference on Multimedia (Part 1)**

Full text available: pdf(1.84 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In order to improve the acceptance of recorded presentations, we introduce a new open document type covering classes typically appearing in this scenario. Instances of this document type can be replayed using our time-based synchronization mechanism. Random access in combination with the realized stream/media-layered synchronization mechanism results in efficient navigation.

Visible Scrolling and Unrestricted Cross-Referencing ...

5 Technical reports

SIGACT News Staff

January 1980 **ACM SIGACT News**, Volume 12 Issue 1


Full text available:  pdf(5.28 MB)

Additional Information: [full citation](#)

6 Face recognition: A literature survey

W. Zhao, R. Chellappa, P. J. Phillips, A. Rosenfeld

December 2003 **ACM Computing Surveys (CSUR)**, Volume 35 Issue 4

Full text available:  pdf(4.28 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


As one of the most successful applications of image analysis and understanding, face recognition has recently re especially during the past several years. At least two reasons account for this trend: the first is the wide range o enforcement applications, and the second is the availability of feasible technologies after 30 years of research. E recognition systems have reached a certain level of maturity, their success is ...

Keywords: Face recognition, person identification

7 SpeechSkimmer: a system for interactively skimming recorded speech

Barry Arons

March 1997 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 4 Issue 1

Full text available:  pdf(1.03 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#),

Listening to a speech recording is much more difficult than visually scanning a document because of the transier Audio recordings capture the richness of speech, yet it is difficult to directly browse the stored information. This structuring, filtering, and presenting recorded speech, allowing a user to navigate and interactively find informat article describes the SpeechSkimmer system for interacti ...

Keywords: audio browsing, interactive listening, nonspeech audio, speech as data, speech skimming, speech u:

8

External memory algorithms and data structures: dealing with **massive data**

Jeffrey Scott Vitter

June 2001 **ACM Computing Surveys (CSUR)**, Volume 33 Issue 2

Full text available:  pdf(828.46 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Data sets in large applications are often too massive to fit completely inside the computers internal memory. Th communication (or I/O) between fast internal memory and slower external memory (such as disks) can be a ma this article we survey the state of the art in the design and analysis of external memory (or EM) algorithms and to exploit locality in order to reduce the I/O costs. We consider a varie ...

Keywords: B-tree, I/O, batched, block, disk, dynamic, extendible hashing, external memory, hierarchical mem methods, multilevel memory, online, out-of-core, secondary storage, sorting

9 Technical session 9: still and moving images: Finding the right shots: assessing usability and performance interface

Michael Christel, Neema Moraveji

October 2004 **Proceedings of the 12th annual ACM international conference on Multimedia**

Full text available:  pdf(410.37 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The authors developed a system in which visually dense displays of thumbnail imagery in storyboard views are used for video retrieval. The views allow for effective retrieval, as evidenced by the success achieved by expert users with the system at the NIST TRECVID 2002 and 2003. This paper demonstrates that novice users also achieve comparatively high retrieval performance using the TRECVID 2003 benchmarks. Through an analysis of the user interaction logs, the authors find that the system is effective in supporting video retrieval tasks.

Keywords: TRECVID, storyboard, video retrieval

10 Content-based retrieval: VideoQA: question answering on news video

Hui Yang, Lekha Chaisorn, Yunlong Zhao, Shi-Yong Neo, Tat-Seng Chua

November 2003 **Proceedings of the eleventh ACM international conference on Multimedia**

Full text available:  pdf(592.26 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

When querying a news video archive, the users are interested in retrieving precise answers in the form of a summary. However, current video retrieval systems, including the search engines on the web, are designed to retrieve video segments. This research explores the use of question answering (QA) techniques to support personalized news video retrieval. Our system, VideoQA, using short natural language questions with implicit questions to retrieve relevant video segments.

Keywords: transcript error correction, video question answering, video retrieval, video summarization

11 Auto-summarization of audio-video presentations

Liwei He, Elizabeth Sanocki, Anoop Gupta, Jonathan Grudin

October 1999 **Proceedings of the seventh ACM international conference on Multimedia (Part 1)**

Full text available:  pdf(1.55 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

As streaming audio-video technology becomes widespread, there is a dramatic increase in the amount of multimedia content. Users face a new challenge: How to examine large amounts of multimedia content quickly. One technique that can help is video summaries; that is, a shorter version assembled by picking important segments from the original video. This paper describes techniques for automatic creation of summaries for online audio-video presentations.

Keywords: corporate training, digital library, streaming media, user evaluation, user log analysis, video on-demand

12 Spoken dialogue technology: enabling the conversational user interface

Michael F. McTear

March 2002 **ACM Computing Surveys (CSUR)**, Volume 34 Issue 1

Full text available:  pdf(987.69 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Spoken dialogue systems allow users to interact with computer-based applications such as databases and expert systems. The origins of spoken dialogue systems can be traced back to Artificial Intelligence research in the 1970s. However, it is only within the last decade or so, with major advances in speech technology, that spoken dialogue systems have been developed and, in some cases, introduced into commercial applications.

Keywords: Dialogue management, human computer interaction, language generation, language understanding, natural language processing, synthesis

13 Session 11: multimedia analysis and retrieval: A user attention model for video summarization

Yu-Fei Ma, Lie Lu, Hong-Jiang Zhang, Mingjing Li

December 2002 **Proceedings of the tenth ACM international conference on Multimedia**

Full text available:  pdf(644.28 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Automatic generation of video summarization is one of the key techniques in video management and browsing. This paper presents a user attention model for video summarization. The model is based on the analysis of user interaction logs. The model is evaluated using the TRECVID 2003 benchmarks. The results show that the model is effective in supporting video summarization tasks.

generic framework of video summarization based on the modeling of viewer's attention. Without fully semantic understanding of video content, this framework takes advantage of understanding of video content, this framework takes advantage of computational models to eliminate the needs of complex heuristic rules in video summarization. A set of methods ...

Keywords: attention model, skimming, video content analysis, video summarization

14 Image annotation and video summarization: Video summarization based on user log enhanced link analysis

Bin Yu, Wei-Ying Ma, Klara Nahrstedt, Hong-Jiang Zhang

November 2003 **Proceedings of the eleventh ACM international conference on Multimedia**

Full text available:  pdf(771.50 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


Efficient video data management calls for intelligent video summarization tools that automatically generate concise summaries and browsing. Traditional video summarization techniques are based on low-level feature analysis, without understanding of the semantics of video content. Our vision is that users unintentionally embed their understanding of the video content into their comments. This valuable knowledge, which is difficult for computers to learn ...

Keywords: link analysis, log mining, skimming, user behavior, video content analysis, video summarization

15 Voice puppetry

Matthew Brand

July 1999 **Proceedings of the 26th annual conference on Computer graphics and interactive techniques**

Full text available:  pdf(1.82 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: computer vision and audition, control, facial animation, learning, lip-syncing

16 Session 6: student best paper contest: A utility framework for the automatic generation of audio-visual skims

Hari Sundaram, Lexing Xie, Shih-Fu Chang

December 2002 **Proceedings of the tenth ACM international conference on Multimedia**

Full text available:  pdf(487.92 KB)


Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

In this paper, we present a novel algorithm for generating audio-visual skims from computable scenes. Skims are generated from video libraries, and for on-demand summaries in set-top boxes. A computable scene is a chunk of data that exhibits coherence in chromaticity, lighting and sound. There are three key aspects to our approach: (a) visual complexity and grammatical structure, (b) a utility model for skim generation. We define a measure of visual complexity ...

17 Evolving video skims into useful multimedia abstractions

Michael G. Christel, Michael A. Smith, C. Roy Taylor, David B. Winkler

January 1998 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available:  pdf(1.02 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: digital video library, empirical studies, evaluation, multimedia, video abstraction, video browsing, video summarization

18 Data clustering: a review

A. K. Jain, M. N. Murty, P. J. Flynn

September 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 3

Full text available:  pdf(636.24 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Clustering is the unsupervised classification of patterns (observations, data items, or feature vectors) into group problem has been addressed in many contexts and by researchers in many disciplines; this reflects its broad application steps in exploratory data analysis. However, clustering is a difficult problem combinatorially, and differences in a different communities has made the transfer of useful generic co ...

Keywords: cluster analysis, clustering applications, exploratory data analysis, incremental clustering, similarity

19 A confederation of tools for capturing and accessing collaborative activity

Scott Minneman, Steve Harrison, Bill Janssen, Gordon Kurtenbach, Thomas Moran, Ian Smith, Bill van Melle
January 1995 **Proceedings of the third ACM international conference on Multimedia**

Full text available:  [htm\(73.96 KB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: CSCW, activity capture, content-and content-based indexing and retrieval, digital audio and video, real-time indexing, usability, user interfaces

20 Long papers: multimodal interaction: Multimodal new vocabulary recognition through speech and handwriting application

Edward C. Kaiser
January 2005 **Proceedings of the 10th international conference on Intelligent user interfaces**

Full text available:  [pdf\(428.63 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Our goal is to automatically recognize and enroll new vocabulary in a multimodal interface. To accomplish this on mutually disambiguating aspects of co-referenced, co-temporal handwriting and speech. The co-referenced semi-determined by our multimodal interface for schedule chart creation. This paper motivates and describes our technical vocabulary (OOV) terms and enrolling them dynamically in the system. We ...

Keywords: multimodal interaction, mutual disambiguation, vocabulary learning

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<http://portal.acm.org/results.cfm?query=audio%2Dcentric%20and%20rank%20and%20text%20and%20brea...> 2/18/05

January 1995 **Proceedings of the third ACM international conference on Multimedia**

Full text available:  [htm\(57.79 KB\)](#)

Additional Information: full citation, references, citings, index terms

Keywords: browsing and navigation, hypermedia, interactive movies, media integration and synchronization, r

35 MPEG-4: an object-based multimedia coding standard supporting mobile applications

Atul Puri, Alexandros Eleftheriadis

June 1998 **Mobile Networks and Applications**, Volume 3 Issue 1Full text available: pdf(747.80 KB)

Additional Information: full citation, abstract, references, citings, index terms,

The ISO MPEG committee, after successful completion of the MPEG-1 and the MPEG-2 standards is currently working on a standard. Originally, MPEG-4 was conceived to be a standard for coding of limited complexity audio-visual scene in July 1994, its scope was expanded to include coding of scenes as a collection of individual audio-visual objects and advanced functionalities not supported by other standards. One of the key features of MPEG-4 is the ability to represent and manipulate individual objects within a scene.

36 CMIFed: a transportable hypermedia authoring system

Lynda Hardman, Guido van Rossum, Jack Jansen, Sjoerd Mullender

October 1994 **Proceedings of the second ACM international conference on Multimedia**


Full text available: pdf(1.93 MB)

Additional Information: full citation, references, citings, index terms

37 Detecting topical events in digital video

Tanveer Syeda-Mahmood, S. Srinivasan

October 2000 **Proceedings of the eighth ACM international conference on Multimedia**

Full text available:  pdf(1.04 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citing](#), [index terms](#)

The detection of events is essential to high-level semantic querying of video databases. It is also a very challenging detection and integration of evidence for an event available in multiple information modalities, such as audio, video. This paper focuses on the detection of specific types of events, namely, topic of discussion events that occur in classroom/lecture videos. In this paper, we present a query-driven approach to the detection of topic of ...

Keywords: multi-modal fusion, query-driven topic detection, slide detection, topic of discussion events, topical

³⁸ Status report of the graphic standards planning committee

Computer Graphics staff

August 1979 **ACM SIGGRAPH Computer Graphics**, Volume 13 Issue 3

Full text available: pdf(15.01 MB)

Additional Information: full citation, references, citings

39 Evaluation of model-based retrieval effectiveness with OCR text

Kazem Taghva, Julie Borsack, Allen Condit

January 1996 **ACM Transactions on Information Systems (TOIS)**, Volume 14 Issue 1

Full text available:  pdf(2.02 MB)

Additional Information: full citation, abstract, references, index terms, review

We give a comprehensive report on our experiments with retrieval from OCR-generated text using systems base More specifically, we show that average precision and recall is not affected by OCR errors across systems for sev used in these experiments include both actual OCR-generated text and standard information retrieval collections of OCR errors. Both the actual and simulation experiments inc ...

Keywords: error correction, feedback, optical character recognition, ranking algorithms

40 Image Retrieval from the World Wide Web: Issues, Techniques, and Systems

M. L. Kherfi, D. Ziou, A. Bernardi

March 2004 **ACM Computing Surveys (CSUR)**, Volume 36 Issue 1

Full text available:  pdf(294.13 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

With the explosive growth of the World Wide Web, the public is gaining access to massive amounts of information. However, finding relevant information remains a difficult task, whether the information is textual or visual. Text search engines have been developed and have achieved a certain degree of success. However, despite the large number of images available on the Web, image search engines are rare. In this article, we show that in order to allow people to profit from the large amount of information available on the Web, image search engines must be developed.

Keywords: Image-retrieval, World Wide Web, crawling, feature extraction and selection, indexing, relevance feedback

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41 [Pen computing: a technology overview and a vision](#)

André Meyer

July 1995

ACM SIGCHI Bulletin, Volume 27 Issue 3

Full text available: pdf(5.14 MB)

Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

This work gives an overview of a new technology that is attracting growing interest in public as well as in the cor
difference from other technologies is in the use of a pen or pencil as the primary means of interaction between a
the familiar pen and paper interface metaphor. From this follows a set of consequences that will be analyzed and
emerging technologies and visions.Starting with a short historic ...

42 [An interactive comic book presentation for exploring video](#)

John Boreczky, Andreas Girgensohn, Gene Golovchinsky, Shingo Uchihashi

April 2000

Proceedings of the SIGCHI conference on Human factors in computing systems

Full text available: pdf(1.62 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper presents a method for generating compact pictorial summarizations of video. We developed a novel a
from a video suitable for summarizing the video and for providing entry points into it. Images are laid out in a co
reminiscent of a comic book or Japanese manga. Users can explore the video by interacting with the presented s
keyframe start video playback and/or present additional detail. Caption ...

Keywords: keyframe extraction, video browsing, video summarization

43 [Speech, Audio, Gesture: SCANMail: a voicemail interface that makes speech browsable, readable and se](#)

Steve Whittaker, Julia Hirschberg, Brian Amento, Litza Stark, Michiel Bacchiani, Philip Isenhour, Larry Stead, Gary Z

April 2002

**Proceedings of the SIGCHI conference on Human factors in computing systems: Changing
ourselves**

Full text available: pdf(540.75 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Increasing amounts of public, corporate, and private speech data are now available on-line. These are limited in
lack of tools to permit their browsing and search. The goal of our research is to provide tools to overcome the in
access, by supporting visual scanning, search, and information extraction. We describe a novel principle for the
What You See Is Almost What You Hear (WYSIAWYH). In *WYSI* ...

Keywords: "speech as data", asynchronous communication, empirical evaluation, speech access, voicemail, wh
hear

44 Multimedia abstractions for a digital video library

Michael G. Christel, David B. Winkler, C. Roy Taylor

July 1997 **Proceedings of the second ACM international conference on Digital libraries**

Full text available:  pdf(1.21 MB) Additional Information: [full citation](#), [references](#), [citing](#), [index terms](#)

Keywords: digital video library, multimedia abstraction, video abstraction, video browsing

45 Challenges in information retrieval and language modeling: report of a workshop held at the center for intelligent information systems
University of Massachusetts Amherst, September 2002

James Allan, Jay Aslam, Nicholas Belkin, Chris Buckley, Jamie Callan, Bruce Croft, Sue Dumais, Norbert Fuhr, Donn
Djoerd Hiemstra, Thomas Hofmann, Eduard Hovy, Wessel Kraaij, John Lafferty, Victor Lavrenko, David Lewis, Liz Li
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Schwartz, Amit Singhal, Alan Smeaton, Howard Turtle, Ellen Voorhees, Ralph Weischedel, Jinxi Xu, ChengXiang Zha
April 2003 **ACM SIGIR Forum**, Volume 37 Issue 1

Full text available: pdf(1.60 MB)

Additional Information: [full citation](#), [citings](#), [index terms](#), [review](#)

46 Learning II: A time series clustering based framework for multimedia mining and summarization using aud

Regunathan Radhakrishnan, Ajay Divakaran, Ziyu Xiong

October 2004 **Proceedings of the 6th ACM SIGMM international workshop on Multimedia information re**Full text available: pdf(618.98 KB)

Additional Information: full citation, abstract, references, index terms

Past work on multimedia analysis has shown the utility of detecting specific temporal patterns for different content types. In this paper, we propose a unified, content-adaptive, unsupervised mining framework to bring out such temporal patterns from diverse multimedia data. We formulate the problem of pattern discovery from video as a time series clustering problem. We treat the sequence of features extracted from the video as a time series and perform a temporal clustering to discover patterns. We evaluate our framework on a large-scale video dataset and show that it can effectively discover meaningful temporal patterns from video data.

Keywords: audio classification, time series analysis, video summarization

47 Integrated technologies for indexing spoken language

Francis Kubala, Sean Colbath, Daben Liu, Amit Srivastava, John Makhoul

February 2000 **Communications of the ACM**, Volume 43 Issue 2

Full text available:  pdf(1.14 MB)  html(36.89 KB) . Additional Information: full citation, references, citings, [index terms](#), [review](#)

⁴⁸ Technical best paper contest session: Learning query-class dependent weights in automatic video retrieval

Rong Yan, Jun Yang, Alexander G. Hauptmann

October 2004 **Proceedings of the 12th annual ACM international conference on Multimedia**Full text available: pdf(414.60 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Combining retrieval results from multiple modalities plays a crucial role for video retrieval systems, especially for systems without any user feedback and query expansion. However, most of current systems only utilize query or explicit user weighting. In this work, we propose using query-class dependent weights within a hierarchical mixture to combine multiple retrieval results. We first classify each user query into ...

Keywords: learning, modality fusion, query class, video retrieval

49 Toward adaptive conversational interfaces: Modeling speech convergence with animated personas

Sharon Oviatt, Courtney Darves, Rachel Coulston

September 2004 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 11 Issue 3Full text available: pdf(1.15 MB)

Additional Information: full citation, abstract, references, index terms

The design of robust interfaces that process conversational speech is a challenging research direction largely because the design space is highly variable. This research explored a new dimension of speaker stylistic variation by examining whether users' speech is affected by the text-to-speech (TTS) heard from a software partner. To pursue this question, a study was conducted in which children conversed with animated partners that embodied different ...

Keywords: Adaptive interfaces, amplitude, animated characters, children's educational software, communicative conversational interfaces, dialogue response latency, duration, human-computer adaptation, individual differences, metaphors, speech recognition, text-to-speech

50 Efficient passage ranking for document databases

Marcin Kaszkiel, Justin Zobel, Ron Sacks-Davis

October 1999 **ACM Transactions on Information Systems (TOIS)**, Volume 17 Issue 4Full text available: pdf(328.98 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citing](#), [index terms](#)

Queries to text collections are resolved by ranking the documents in the collection and returning the highest-scoring alternative retrieval method is to rank passages, that is, short fragments of documents, a strategy that can improve retrieval of relevant material in documents that are too large for users to consider as a whole. However, ranking of passages has high retrieval costs. In this article we explore alternative query evaluation methods.

Keywords: inverted files, passage retrieval, query evaluation, text databases, text retrieval

51 Poster session 2: Emotional Chinese talking head system

Jianhua Tao, Tieniu Tan

October 2004 **Proceedings of the 6th international conference on Multimodal interfaces**

Full text available:  pdf(327.79 KB)

Additional Information: full citation, abstract, references, index terms

Natural Human-Computer Interface requires integration of realistic audio and visual information for perception a talking head system is proposed. The system converts text to speech with synchronized animation of mouth movement. The talking head is based on a generic 3D human head model. The personalized model is incorporated into the system. The personalized model offers a more natural and realistic look than the generic model.

Keywords: emotion, facial animation, speech synthesis, talking head

52 Eyes alive

SooHa Park Lee, Jeremy B. Badler, Norman I. Badler

July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques**, Volume 21 Issue 3

Full text available: pdf(2.09 MB)

Additional Information: full citation, abstract, references, citings, index terms

For an animated human face model to appear natural it should produce eye movements consistent with human (face conversational interactions, eyes exhibit conversational turn-taking and agent thought processes through g patterns. We have implemented an eye movement model based on empirical models of saccades and statistical i animations using stationary eyes, eyes with random saccades only, and eyes wit ...

Keywords: HCI (human-computer interface), eye movement synthesis, facial animation, saccades, statistical m

53 Extracting usability information from user interface events

David M. Hilbert, David F. Redmiles

December 2000 **ACM Computing Surveys (CSUR)**, Volume 32 Issue 4

Full text available:  [pdf\(1.50 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#),

Modern window-based user interface systems generate user interface events as natural products of their normal can be automatically captured and because they indicate user behavior with respect to an application's user interface regarded as a potentially fruitful source of information regarding application usage and usability. However, because typically voluminous and rich in detail, automated support is generally ...



Keywords: human-computer interaction, sequential data analysis, usability testing, user interface event monitoring

54 Unsupervised learning of the morphology of a natural language

John Goldsmith

June 2001

Computational Linguistics, Volume 27 Issue 2

Full text available:  [pdf\(3.19 MB\)](#)  [Publisher Site](#)

Additional Information: [full citation](#), [abstract](#), [references](#)

This study reports the results of using minimum description length (MDL) analysis to model unsupervised learning segmentation of European languages, using corpora ranging in size from 5,000 words to 500,000 words. We develop rapidly develop a probabilistic morphological grammar, and use MDL as our primary tool to determine whether the heuristics will be adopted or not. The resulting grammar matches well the analysis that ...

55 Video I: Key-frame extraction algorithm using entropy difference

Markos Mentzelopoulos, Alexandra Psarrou

October 2004

Proceedings of the 6th ACM SIGMM international workshop on Multimedia information retrieval

Full text available:  [pdf\(435.21 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The fast evolution of the digital video technology has opened new areas of research. The most important aspect to perform video cataloguing, indexing and retrieval. The basic step is to find a way for video abstraction, as this with a large set of video data with sufficient content representation. In this paper we present an overview of the current algorithms. We propose the Entropy-Difference, an algorithm that performs ...

Keywords: entropy semantics

56 A methodology and algorithms for the design of hard real-time multitasking ASICs

Miodrag Potkonjak, Wayne Wolf

October 1999

ACM Transactions on Design Automation of Electronic Systems (TODAES), Volume 4 Issue 4

Full text available:  [pdf\(198.48 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Traditional high-level synthesis concentrates on the implementation of a single task (e.g. filter, linear controller, applications—multifunctional embedded controllers intelligent wireless end-points, and DSP and multimedia service computational tasks. This paper describes new techniques for the synthesis of ASIC implementations that realize under hard real-time constraints. Our synthesis ...

57 Visual digests for news video libraries

Michael G. Christel

October 1999

Proceedings of the seventh ACM international conference on Multimedia (Part 1)

Full text available:  [pdf\(1.52 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The Informedia Digital Video Library contains over 2000 hours of video, growing at a rate of 15 hours per week. sufficient for information retrieval because often the candidate result sets grow in number as the library grows. \ stories from the library, providing users with a visual mechanism for interactive browsing and query refinement. dynamically under the direction of the user based on automatically de ...

Keywords: digital video library, information visualization, multimedia abstraction

58 Compiling nested data-parallel programs for shared-memory multiprocessors

Siddhartha Chatterjee

July 1993 **ACM Transactions on Programming Languages and Systems (TOPLAS)**, Volume 15 Issue 3

Full text available:  [pdf\(4.17 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#), [review](#)

Keywords: compilers, data parallelism, shared-memory multiprocessors

59 Chinese input with keyboard and eye-tracking: an anatomical study

Jingtao Wang, Shumin Zhai, Hui Su

March 2001 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available:  [pdf\(384.92 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Chinese input presents unique challenges to the field of human computer interaction. This study provides an analysis of the standard Chinese input process, which is based on pinyin, a phonetic spelling system in Roman characters. Through performance modeling and experimentation, our study decomposed the Chinese input process into sub-tasks and identified key factors. In the experiment, two component results resulted from the large number of homophones ...

Keywords: Chinese text input, eye-tracking, gaze, gaze-tracking, multi-modal interface, performance modeling

60 Long papers: recommendation and instruction: Animating an interactive conversational character for an educational environment

Andrea Corradini, Manish Mehta, Niels-Ole Bernsen, Marcela Charfuelan

January 2005 **Proceedings of the 10th international conference on Intelligent user interfaces**

Full text available:  [pdf\(281.80 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Within the framework of the project NICE (Natural Interactive Communication for Edutainment) [2], we have been developing an entertaining computer game that allows children and teenagers to interact with a conversational character inspired by Hans Andersen (HCA). The rationale behind our system is to make kids learn about HCA's life, fairy tales and historical events in a fun way. We report on the character's generation and realization of behavior ...

Keywords: edutainment, embodied conversational agent, multimodal output, user interface

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PAT. NO.	Title
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- 1 6,754,181  System and method for a directory service supporting a hybrid communication system architecture
- 2 6,731,625  System, method and article of manufacture for a call back architecture in a hybrid network with support for internet telephony
- 3 6,335,927  System and method for providing requested quality of service in a hybrid network
- 4 5,999,525  Method for video telephony over a hybrid network
- 5 5,867,495  System, method and article of manufacture for communications utilizing calling, plans in a hybrid network
- 6 5,867,494  System, method and article of manufacture with integrated video conferencing billing in a communication system architecture

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